CLAIMS

1 - Braking system (S), intended to be fitted to a mechanism, with one or more rotating members (34), comprising a toothed wheel (6), connected rotationally with respect to at least one rotating member (34) to be braked, and a worm (8), driven rotationally by a motor (5) upon the rotation of the rotating member (34), this worm (8) being permanently in mesh with the toothed wheel (6); characterised in that the worm (8) is contained in a bore with a diameter slightly larger than that of the worm (8).

2 - Braking system (S) according to Claim 1, characterised in that the worm (8) comprises at least one cylindrical bearing surface (8a) coaxial with its threaded portion, and the said bore has a diameter slightly larger than that of this or these cylindrical bearing surfaces.

3 - Braking system (S) according to Claim 1 or Claim 2, characterised in that it comprises specific energy absorption/dissipation means (10, L, 12; 13 to 16; 19 to 21), in addition to the energy dissipation means constituted by the friction between the teeth of the wheel (6) and the thread of the worm (8).

4 - Braking system (S) according to Claim 3, characterised in that the said specific energy absorption/dissipation, means comprise a sliding mounting of the worm in the said bore and energy absorption/dissipation means (10, L, 12) associated with this worm (8) and actuated by it upon its sliding.

5 - Braking system (S) according to claim 4, characterised in that the said associated energy absorption/dissipation means comprise at least one resilient means, such as a spring (10), interposed between at least one end of the worm (8) and the walls of the part (1) delimiting the bore.

6 - Braking system (S) according to claim 4 or claim 5, characterised in that the said associated energy absorption/dissipation means comprise :

- a liquid (L) contained in the space delimited by at least one piston (8a), against which one end of worm (8) comes to bear, and the walls of the said part (1) delimiting the bore, and

- one or more conduits (12) and/or interstices for this liquid (L) to escape upon the sliding of the worm (8), this or these conduits (12) and/or interstices having reduced sections suitable for allowing the said liquid (L) to escape only over a non- instantaneous time interval.

7 - Braking system (S) according to Claim 6, characterised in that the said one or more conduits (12) and/or interstices comprise means (15) for adjusting the flow of liquid (L).

8 - Braking system (S) according to Claim 6 or Claim 7, characterised in that the said one or more conduits (12) and/or interstices comprise means (16) for preventing the return of this liquid (L), which make it possible to obtain a different damping for each sliding direction of the worm (8).

9 - Braking system (S) according to Claim 7, characterised in that the means (15, 61, 62) for adjusting the flow rate of the liquid (L) comprise a ring (60) secured to the screw (8), a tubular member (61), engaged adjustably through this ring (60) and a rod (62) engaged adjustably in the member 61, the tubular member (61) and the rod (62) having radial holes (67,68, 73, 74) communicating with each other, the rod (62) having grooves (76) extending in the circumferential direction and of variable depth, and being adapted to be disposed in a predetermined angular position relative to the rod 61.

10 - Braking system (S) according to one of Claims 4 to 9, characterised in that it includes sensors or detectors of the sliding of the worm (8), which actuate command or control means which act on the means for driving the said one or more rotating members (34).

11 - Braking system (S) according to one of Claims 3 to 10, characterised in that the said specific energy absorption/dissipation means comprise friction connecting means (19 to 21) between the toothed wheel (6) and its hub or between the toothed wheel (6) and the shaft receiving this wheel (6), freeing the pivoting of this wheel (6) with respect to this hub beyond a certain torque threshold, with friction.

12 - Braking system (S) according to one of Claims 3 to 11, charazterised in that the said specific energy absorption/dissipation means comprise a flexible and/or floating mounting of the braking system (S) with respect to the frame which contains it.

13 - Braking system (S) according to one of Claims 1 to 12, characterised in that it comprises an electronic controller (40) for controlling the maximum speed of the motor (5) for actuating the worm (8).

14 - Braking system (S) according to Claim 13, characterised in that the supply to the motor (5) and the control of the speed thereof are performed separately from those of the motor (30) of the mechanism, by means of an electronic controller (50) and a controller (51) having an independent link to the control station (42) of the mechanism, this control station (42) delivering redundant information to the said controller (51).